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| CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210 | | | EXAMINER NGUYEN, LUONG TRUNG | |
| | | | ART UNIT 2622 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/657,286

Applicant(s)

PELSUE ET AL.

Examiner

LUONG T. NGUYEN

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/14/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application
- ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 5 is objected to because of the following informalities:

Claim 5 (line 4), "the mirror deflection angle" should be changed to --the maximum deflection angle--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7, 9-14 are rejected under 35 U.S.C. 102 (b) as being anticipated by Rueb et al. (US 5,615,013).

Regarding claim 1, Rueb et al. discloses a method of imaging portions of a workpiece located within a field of view of an imaging system, the workpiece having features which are to be detected with the imaging system, the method comprising:

illuminating a first portion of the workpiece from a first combination of illumination positions and reduced illumination positions so as to limit a first distribution of energy reflected specularly from a workpiece location corresponding to the first portion (the first portion 36 of workpiece 27 is illuminated, figure 1, column 3, line 23 - column 4, line 15);

generating output signals to produce image data representative of an image of the first portion (the image from work piece 27 is directed through lens 24 to camera 26, figure 1, column 3, lines 40-45);

illuminating a second portion of the workpiece from a second combination of illumination positions and reduced illumination positions so as to limit a second distribution of energy reflected specularly from a workpiece location corresponding to the second portion, the second combination being non-identical to the first combination as a result of a position of the workpiece portion within the field of view of the imaging system (the galvanometer 22 and mirror 23 change the location of a surface on the workpiece 27 to a second portion of workpiece 27, the second portion of workpiece 27 is also illuminated; figure 1, column 3, line 23 - column 4, line 15);

generating output signals to produce image data representative of an image of the second portion (the image from work piece 27 is directed through lens 24 to camera 26, figure 1, column 3, lines 40-45);

detecting the features in images of the first and second image portions based on similarities and differences in the images (the computer program determines the location of point 36, column 5, lines 15-25).

Regarding claims 2, 12, Rueb et al. discloses wherein illuminating the first portion and illuminating the second portion are carried out concurrently (figure 1).

Regarding claim 3, Rueb et al. discloses wherein the surface features are machine readable marks (the workpiece 38 is a pattern, which is read by camera 26, figure 2).

Regarding claims 4, 6, Rueb et al. discloses controllably positioning the field of view of the imaging system after illuminating the first portion so as to view the second portion with the imaging system (the galvanometer 22 and mirror 23 change the location of a surface on the workpiece 27 to a second portion of workpiece 27, the second portion of workpiece 27 is also illuminated; figure 1, column 3, line 23 - column 4, line 15).

Regarding claim 5, Rueb et al. discloses wherein controllably positioning is carried out with a computer-controlled galvanometer-mounted pivotal mirror having a maximum deflection angle, wherein a maximum field of view of the imaging system is limited by the mirror deflection angle (the galvanometer 22 and mirror 23 change the location of a surface on the workpiece 27 to a second portion of workpiece 27, the second portion of workpiece 27 is also illuminated; figure 1, column 3, line 23 - column 4, line 15).

Regarding claim 7, Rueb et al. discloses wherein moving is carried out with an X-Y stage (the workpiece 27 is mounted on a table, i.e., an X-Y stage; figure 1, column 3, lines 49-53).

Regarding claim 9, Rueb et al. discloses wherein the features are laser (laser 28, figure 1, column 3, line 23 – column 4, line 15) scribed marks on the workpiece, detecting is carried out with by means of a machine vision processor, and wherein illuminating the first and second combinations of illumination positions and reduced illumination positions introduces sufficient contrast between the features and a background to detect the features at any angular location within a field of view of the imaging system.

Regarding claims 10, 13, Rueb et al. discloses irradiating the workpiece with a laser beam (laser 28, figure 1) to modify a workpiece surface property wherein a feature is produced by interaction of the laser beam and the workpiece.

Regarding claim 11, see Examiner's comment regarding claim 1.

Regarding claim 14, Rueb et al. discloses wherein attenuating comprises controllably positioning at least one baffle in a path between an illumination position and an image location (figure 1).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rueb et al. (US 5,615,013) in view of Lebeau (US 5,129,009).

Regarding claim 8, Rueb et al. fails to specifically disclose wherein the features are marks on a semiconductor wafer. However, Lebeau teaches workpiece 11 is an integrated circuit (figure 7, column 6, lines 40-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Rueb et al. by the teaching of Lebeau in order to provide an automatic integrated circuit inspection system (column 2, lines 10-15).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T. NGUYEN whose telephone number is (571) 272-7315. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID L. OMETZ can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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LN
11/28/07



LUONG T. NGUYEN
PATENT EXAMINER